671

BLS Publications on Productivity and Technology

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Contents

	Page
Introduction	1
Publications	3
Productivity studies	3
Concepts and techniques of productivity measurement	3
Productivity trends in the business economy and major sectors	4
Productivity trends in individual industries	7
Summaries of findings of *Selected Industries* bulletins, 1980 and earlier years	10
Analyses of industry trends	10
Productivity trends in government	14
Productivity and other economic trends	15
Technology studies	16
International comparisons	18
Labor costs and productivity	18
Unemployment	19
Other international studies	20
Construction labor requirements	21
Bibliographies	23
Studies in progress	24

Introduction

The Office of Productivity and Technology of the Bureau of Labor Statistics is responsible for three major research programs. The productivity research program provides comprehensive statistics for the U.S. economy and its major component sectors, as well as for individual industries. The technological studies program investigates trends in technology and their impact on employment and productivity. The international labor statistics program compiles and analyzes statistics on productivity and related factors in foreign countries for comparison with similar American statistics. Until recently, changing labor and materials requirements in various segments of the construction industry were measured under the construction labor requirements program.

Starting with the most recent date, this directory lists chronologically for each program the publications prepared by the Office since 1972. It also lists a few exceptionally important publications from earlier years. In addition, the directory includes a short list of bibliographies, as well as studies in progress, for which publications should be available in the near future.

Bulletins are for sale by the Superintendent of Documents, U.S. Governement Printing Office, Washington, D.C. 20402, or by the Bureau of Labor Statistics regional offices.

The *Monthly Labor Review* is for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Copies of the *Monthly Labor Review* may be available in libraries designated as Government depositories.

Other publications, including reprints of articles and speeches, are available free as long as the supply lasts from either the Bureau of Labor Statistics, Washington, D.C. 20212, or the Bureau's regional offices.

A few important out-of-print publications, marked by an asterisk (*), are also included; reference copies may be available at public and university libraries. Some out-of-print publications may be available on paper copy or microfiche from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161.

Publications

Productivity Studies

Concepts and techniques of productivity measurement

"Productivity Measures: Private Economy and Major Sectors." Chapter 14 of *BLS Handbook of Methods*, BLS Bulletin 2134, 1982.

"Output per Employee-Hour Measures: Industries and Federal Government." Chapter 15 of *BLS Handbook of Methods*, BLS Bulletin 2134, 1982.

See page 14 for other publications on concepts and techniques of productivity measurement for government.

"Measuring Productivity in Service Industries," by Jerome A. Mark, *Monthly Labor Review*, June 1982, pp. 3 – 8.

The Measurement of Productive Capital Stock, Capital Wealth, and Capital Services, by Michael J. Harper, BLS Working Paper No. 128, March 1982. 45 pp.

"Productivity Improvement: The Government's Role with Regard to Measurement," by Jerome A. Mark. Before the Society of Government Economists, Twelfth Annual Conference, Washington, March 19, 1982.

Problems in the Measurement of Land, by S.H. Rosenthal. January 1981, processed.

"Evaluation of Work-Force Composition Adjustment," by Kent Kunze. In *Measurement and Interpretation of Productivity*, by a Panel to Review Productivity Statistics. National Academy of Sciences, Washington, 1979, pp. 334 – 362.

"Measuring Industry Productivity," by Jerome A. Mark. In *Improving Productivity Through Industry and Company Measurement*. National Center for Productivity and Quality of Working Life, Washington, October 1976, pp. 27 – 36.

"The Significance of Measures of Productivity," by Jerome A. Mark. In *Proceedings*, Conference on Productivity Through Engineering. National Commission on Productivity and Work Quality and the Engineers Joint Council, New York, N.Y., May 1975, pp. 25 – 31.

"Measuring the Productivity of Nonfinancial Corporations," by William M. Eisenberg, *Monthly Labor Review*, November 1974, pp. 21 – 34.

"Productivity Measurements: Accomplishments and Problems," by Jerome A. Mark. Before the American Statistical Association and the Industrial Relations Research Association, San Francisco, California, June 1974.

"Measuring Labor Requirements for Different Types of Construction," by Jerome A. Mark and Martin Ziegler. In *Measuring Productivity in the Construction Industry*. National Commission on Productivity and the Construction Industry Collective Bargaining Commission, Washington, D.C., 1972, pp. 11 – 30.

The Meaning and Measurement of Productivity, by Herbert Stein and Jerome A. Mark, BLS Bulletin 1714, September 1971.

"Industry Productivity Measurement in the United States," a paper prepared for the Statistical Office of the United Nations, New York, N.Y., January 1970.

"International Comparisons of Unit Labor Cost: Concepts and Methods," by William C. Shelton and John H. Chandler, *Monthly Labor Review*, May 1963, pp. 538 – 547.

"Technical Note: Industry Indexes of Output Per Man-Hour," by Jerome A. Mark, *Monthly Labor Review*, November 1962, pp. 1269 – 1273.

Productivity trends in the business economy and major sectors

Productivity and Costs: Private Business, Nonfarm Business, and Manufacturing Sectors. 1947 to the present. Quarterly and annual releases.

Productivity and Costs: Nonfinancial Corporate Sector. 1958 to the present. Quarterly and annual releases.

"Developments in Productivity in 1981," by Lawrence J. Fulco, *Monthly Labor Review*, forthcoming.

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"Productivity Drops, Output and Hours Rise During the Fourth Quarter," by Lawrence J. Fulco, *Monthly Labor Review*, June 1981, pp. 40 – 43.

"Developments in Productivity," by Jerome A. Mark. Before the World Trade Conference, Chicago, Illinois, March 26, 1981.

"Long Nonfarm Productivity Slide Ends During the Third Quarter," by Lawrence J. Fulco, *Monthly Labor Review*, March 1981, pp. 66 – 67.

"Sixth Consecutive Productivity Drop Recorded During the Second Quarter," by Lawrence J. Fulco, *Monthly Labor Review*, December 1980, pp. 52 – 56.

"Productivity Declines Continue into Third Quarter 1979," by Lawrence J. Fulco, *Monthly Labor Review*, February 1980, pp. 46 – 48.

"First-Quarter Productivity Drop Follows Marginal Growth in 1978," by Lawrence J. Fulco, *Monthly Labor Review*, October 1979, pp. 57 – 61.

"Productivity Increased in All Major Sectors in the Third Quarter," by L.J. Fulco, *Monthly Labor Review*, February 1979, pp. 41 – 45.

"Productivity and Costs in the Second Quarter," by J.R. Norsworthy and L.J. Fulco, *Monthly Labor Review*, December 1978, pp. 61 – 64.

"Productivity and Costs in the First Quarter of 1978," by J.R. Norsworthy and L.J. Fulco, *Monthly Labor Review*, September 1978, pp. 46 – 49.

"Productivity and Costs during Recession and Recovery," by J.R. Norsworthy and L.J. Fulco, *Monthly Labor Review*, August 1978, pp. 31 – 34.

"Productivity Trends and Prospects," by Jerome A. Mark. In *Special Study on Economic Change*, Part 2, Joint Economic Committee, U.S. Congress. Washington, U.S. Government Printing Office, 1978, pp. 476 – 82.

"Productivity and Costs in the Third Quarter," by J.R, Norsworthy and L.J. Fulco, *Monthly Labor Review*, March 1978, pp. 42 – 44.

"Productivity and Costs in the Second Quarter," by J.R. Norsworthy and L.J. Fulco, *Monthly Labor Review*, November 1977, pp. 34 – 38.

"Productivity and Costs in the Private Economy, 1976," by J.R. Norsworthy and L.J. Fulco, *Monthly Labor Review*, September 1977, pp. 3 – 8.

"Productivity and Costs in the First Quarter 1977," by J.R. Norsworthy and L.J. Fulco, *Monthly Labor Review*, August 1977, pp. 38 – 40.

"The Productivity Slowdown and the Outlook to 1985," by Ronald E. Kutscher, Jerome A. Mark, and John R. Norsworthy, *Monthly Labor Review*, May 1977, pp. 3 – 8.

"Productivity and Costs in the Fourth Quarter," by J.R. Norsworthy and L.J. Fulco, *Monthly Labor Review*, April 1977, pp. 68 – 71.

"Productivity and Costs in the Third Quarter, 1976," by J.R. Norsworthy and L.J. Fulco, *Monthly Labor Review*, February 1977, pp. 75 – 79.

"New Sector Definitions for Productivity Series," by J.R. Norsworthy and L.J. Fulco, *Monthly Labor Review*, October 1976, pp. 40 – 42.

"Productivity and Costs in the Second Quarter 1976," by J.R. Norsworthy and L.J. Fulco, *Monthly Labor Review*, October 1976, pp. 23 – 26.

"Productivity and Costs, First Quarter 1976," by J.R. Norsworthy and L.J. Fulco, *Monthly Labor Review*, July 1976, pp. 31 – 34.

"Productivity and Costs in the Private Economy, 1975," by J.R. Norsworthy and L.J. Fulco, *Monthly Labor Review*, May 1976, pp. 3 – 11.

"Productivity and Costs in the Third Quarter," by J.R. Norsworthy and L.J. Fulco, *Monthly Labor Review*, February 1976, pp. 36 – 40.

"Productivity and Costs in the Private Economy, 1974," by Jerome A. Mark, *Monthly Labor Review*, June 1975, pp. 3 – 8.

"Productivity and Costs in the Private Economy, 1973," by J.R. Norsworthy and L.J. Fulco, *Monthly Labor Review*, June 1974, pp. 3 – 9.

"Productivity and Costs in the Private Economy, 1972," by William M. Eisenberg and Lawrence J. Fulco, *Monthly Labor Review*, May 1973, pp. 3 – 7.

**Trends in Output per Man-Hour in the Private Economy, 1909–1958*, BLS Bulletin 1249, 1959.

Productivity trends in individual industries

Productivity Measures for Selected Industries, 1981 edition, BLS Bulletin, forthcoming. Includes productivity data and related information for industries listed below. Separate, detailed reports for many of these industries are listed beginning on page 10.

SIC Code	*Industry*	*Latest year*
	Mining	
1011	Iron mining, crude ore	1981
1011	Iron mining, usable ore	1981
1021	Copper mining, crude ore	1981
1021	Copper mining, recoverable metal	1981
111, 121	Coal mining	1981
121	Bituminous coal and lignite mining	1981
14	Nonmetallic minerals, except fuels	1981
142	Crushed and broken stone	1981
	Manufacturing	
2026	Fluid milk	1981
203	Preserved fruits and vegetables	1980
2033	Canned fruits and vegetables	1980
204	Grain mill products	1980
2041	Flour and other grain mill products	1981
2043	Cereal breakfast foods	1980
2044	Rice milling	1980
2045	Blended and prepared flour	1980
2046	Wet corn milling	1980
2047,43	Prepared feeds for animals and fowls	1980
205	Bakery products	1981
2061,62,63	Sugar	1981
2061,62	Raw and refined cane sugar	1980
2063	Beet sugar	1980
2065	Candy and other confectionery products	1978
2082	Malt beverages	1981
2086	Bottled and canned soft drinks	1981
2111,21,31	All tobacco products	1981
2111,2131	Cigarettes, chewing and smoking tobacco	1981
2121	Cigars	1981
2251,52	Hosiery	1981
2281	Yarn mills, except wool	1981
2421	Sawmills and planing mills, general	1981
2431	Millwork	1980
2435,2436	Veneer and plywood	1981
2435	Hardwood veneer and plywood	1981

SIC Code	Industry	Latest year
	Manufacturing—Continued	
2436	Softwood veneer and plywood	1981
251	Household furniture	1981
2511,2517	Wood household furniture	1980
2512	Upholstered household furniture	1980
2514	Metal household furniture	1980
2515	Mattresses and bedsprings	1980
2521	Wood office furniture	1981
2522	Metal office furniture	1981
2611,21,31,61	Paper, paperboard, and pulp mills	1981
2643	Paper and plastic bags	1980
2651	Folding paperboard boxes	1981
2653	Corrugated and solid fiber boxes	1981
2823,24	Synthetic fibers	1981
2834	Pharmaceutical preparations	1981
2841	Soaps and detergents	1980
2844	Cosmetics	1980
2851	Paints and allied products	1981
2911	Petroleum refining	1981
3011	Tires and inner tubes	1980
314	Footwear	1981
3221	Glass containers	1981
3241	Hydraulic cement	1981
325	Structural clay products	1981
3251,53,59	Clay construction products	1981
3251	Brick and structural clay tile	1981
3253	Ceramic wall and floor tile	1980
3255	Clay refractories	1981
3271,72	Concrete products	1980
3273	Ready-mix concrete	1980
331	Steel	1981
3321	Gray iron foundries	1981
3324,25	Steel foundries	1981
3331,32,33	Primary copper, lead, and zinc	1981
3331	Primary copper	1981
3334	Primary aluminum	1981
3351	Copper rolling and drawing	1981
3353,54,55	Aluminum rolling and drawing	1981
3411	Metal cans	1981
3423	Handtools	1980
3441	Fabricated structural metal	1981
3523	Farm machinery	1980
3524	Garden machinery	1980
3531	Construction machinery and equipment	1981
3541,42	Machine tools	1981

SIC Code	Industry	Latest year
	Manufacturing—Continued	
3541	Metal cutting machine tools	1981
3542	Metal forming machine tools	1981
3561	Pumps and compressors	1980
3562	Ball and roller bearings	1981
3612	Transformers	1981
3621	Motors and generators	1981
3631,32,33,39	Major household appliances	1981
3631	Household cooking equipment	1981
3632	Household refrigerators and freezers	1981
3633	Household laundry equipment	1981
3639	Household appliances, not elsewhere classified	1981
3641	Electric lamps	1981
3645,46,47,48	Lighting fixtures	1981
3651	Radio and television receiving sets	1981
371	Motor vehicles and equipment	1981
	Other	
401	Railroad transportation, revenue traffic	1981
401	Railroad transportation, car miles	1981
4111,4131, 414 part	Bus carriers, class I	1981
4213 part	Intercity trucking	1981
4213 part	Intercity trucking, general freight	1981
4511,4521 part	Air transportation	1981
4612, 13	Petroleum pipelines	1981
4811	Telephone communications	1981
491,492,493	Gas and electric utilities	1981
491,493 part	Electric utilities	1981
492,493 part	Gas utilities	1981
54	Retail food stores	1981
5511	Franchised new car dealers	1981
5541	Gasoline service stations	1981
58	Eating and drinking places	1981
5912	Drug and proprietary stores	1981
602	Commercial banking	1980
7011	Hotels, motels, and tourist courts	1981
721	Laundry and cleaning services	1981

Summaries of findings of *Selected Industries* bulletins, 1980 and earlier years

"Productivity Declined in 1980 in Most Industries Measured," by Arthur S. Herman, *Monthly Labor Review*, May 1982, pp. 36 – 39.

"Productivity Slows or Drops in 1979 in More than Half of Industries Measured," by Arthur S. Herman, *Monthly Labor Review*, April 1981, pp. 58 – 61.

"Productivity Increased in 1978 in Most Industries Measured," by Arthur S. Herman, *Monthly Labor Review*, January 1980, pp. 40 – 43.

"Productivity Increased During 1977 in a Majority of Selected Industries," by Arthur S. Herman, *Monthly Labor Review*, September 1978, pp. 54 – 59.

"Productivity Rates Rose in 1976 for Almost All Industries Surveyed," by Arthur S. Herman, *Monthly Labor Review*, October 1977, pp. 57 – 60.

"Industries Studied Show Productivity Declines in 1974," by Arthur S. Herman, *Monthly Labor Review*, December 1975, pp. 50 – 52.

"Productivity Increased in 1973 in Most Industries Studied," by Arthur S. Herman, *Monthly Labor Review*, August 1974, pp. 69 – 71.

"Productivity Gains in 1972 in Selected Industries," by Charles W. Ardolini, *Monthly Labor Review*, July 1973, pp. 43 – 45.

"Rapid Productivity Gains Reported for Selected Industries for 1971," by Arthur S. Herman, *Monthly Labor Review*, August 1972, pp. 41 – 43.

Analyses of industry trends

"Productivity in Cosmetics and Other Toiletry Manufacturing," by Patricia Wilder, *Monthly Labor Review*, forthcoming.

"Productivity in Commercial Banking," by Horst Brand and John Duke, *Monthly Labor Review*, forthcoming.

"Productivity in Hand and Edge Tool Manufacturing," by James York and Mary Robinson Farris, *Monthly Labor Review*, forthcoming.

"Productivity in the Office Furniture Industry," by J. Edwin Henneberger, *Monthly Labor Review*, forthcoming.

"Productivity in Pump and Compressor Manufacturing," by Horst Brand and Clyde Huffstutler, *Monthly Labor Review*, forthcoming.

"Productivity Growth Average in Farm Machinery Manufacturing," by Arthur S. Herman and John W. Ferris, *Monthly Labor Review*, October 1982.

"Millwork Industry Shows Slow Growth in Productivity," by Jack Veigle and Horst Brand, *Monthly Labor Review*, September 1982.

"Nonwool Yarn Mills Experience Slow Gains in Productivity," by James D. York, *Monthly Labor Review*, March 1982, pp. 30 – 33.

"Transformer Industry Productivity Slows," by Phyllis Flohr Otto, *Monthly Labor Review*, November 1981, pp. 35 – 39.

"Cyclical Behavior of Productivity in the Machine Tool Industry," by John Duke and Horst Brand, *Monthly Labor Review*, November 1981, pp. 27 – 34.

"Productivity Trends for Intercity Bus Carriers," by Richard B. Carnes, *Monthly Labor Review*, May 1981, pp. 23 – 27.

"Productivity Trends in the Ball and Roller Bearing Industry," by James D. York and Elmer S. Persigehl, *Monthly Labor Review*, January 1981, pp. 40 – 43.

"Productivity Gains in the Drugstore Industry, 1958–1979," by Brian L. Friedman, *Monthly Labor Review*, November 1980, pp. 18 – 22.

"Construction Machinery Industry Posts Slow Rise in Productivity," by John Duke, *Monthly Labor Review*, July 1980, pp. 33 – 36.

"Productivity Growth Below Average in Fabricated Structural Metals," by Phyllis Flohr Otto, *Monthly Labor Review*, June 1980, pp. 27 – 31.

"The Paper and Plastic Bag Industry: Two Distinct Productivity Phases," by Horst Brand and Clyde Huffstutler, *Monthly Labor Review*, May 1980, pp. 26 – 30.

"Folding Paperboard Box Industry Shows Slow Rise in Productivity," by James D. York, *Monthly Labor Review*, March 1980, pp. 25 – 28.

"The Productivity Trend in the Soaps and Detergents Industry," by Patricia S. Wilder, *Monthly Labor Review*, February 1980, pp. 26 – 30.

"Substantial Productivity Gains in the Fluid Milk Industry," by Elmer S. Persigehl and James D. York, *Monthly Labor Review*, July 1979, pp. 22 – 27.

"Productivity Growth Below Average in the Household Furniture Industry," by J. Edwin Henneberger, *Monthly Labor Review*, November 1978, pp. 23 – 29.

"The Pattern of Productivity in the Lighting Fixtures Industry," by Phyllis Flohr Otto, *Monthly Labor Review*, September 1978, pp. 31 – 37.

"The Veneer and Plywood Industry: Above-Average Productivity Gains," by Mary Robinson Farris, *Monthly Labor Review*, September 1978, pp. 26 – 30.

"Productivity and Technology in the Electric Lamp Industry," by Richard B. Carnes, *Monthly Labor Review*, August 1978, pp. 15 – 19.

"Productivity and Technology in the Electric Motor Industry," by James York and Horst Brand, *Monthly Labor Review*, August 1978, pp. 20 – 25.

"Laundry and Cleaning Services Pressed to Post Productivity Gains," by Richard B. Carnes, *Monthly Labor Review*, February 1978, pp. 38 – 42.

A Quarterly Econometric Model of the Long-Term Structure of Production, Factor Demand, and Factor Productivity in Ten U.S. Manufacturing Industries, by Michael Mohr, BLS Staff Paper No. 9, 1978, 333 pp. (Available on microfiche from NTIS. See Introduction.)

"Productivity and New Technology in Eating and Drinking Places," by Richard B. Carnes and Horst Brand, *Monthly Labor Review*, September 1977, pp. 9 – 15.

"Productivity in Grain Mill Products: Output Up, Employment Stable," by James A. Urisko, *Monthly Labor Review*, April 1977, pp. 38 – 43.

"Productivity in Sawmills Increases as Labor Input Declines Substantially," by John Duke and Clyde Huffstutler, *Monthly Labor Review*, April 1977, pp. 33 – 37.

"New-Car Dealers Experience Long-Term Gains in Productivity," by John Duke, *Monthly Labor Review*, March 1977, pp. 29 – 33.

"Output per Unit of Labor Input in the Retail Food Store Industry," by John L. Carey and Phyllis Flohr Otto, *Monthly Labor Review*, January 1977, pp. 42 – 47.

"Productivity in the Nonmetallic Minerals Industry, 1954–75," by Clyde Huffstutler and Michael Broad, *Monthly Labor Review*, June 1976, pp. 25 – 30.

"Productivity in the Copper Rolling and Drawing Industry," by Phyllis Flohr Otto, *Monthly Labor Review*, December 1975, pp. 27 – 30.

"Productivity in Structural Clay Products," by Clyde Huffstutler and Michael M. Broad, *Monthly Labor Review*, October 1975, pp. 29 – 33.

"Productivity in Hotels and Motels, 1958–1973," by James A. Urisko, *Monthly Labor Review*, May 1975, pp. 24 – 28.

"The BLS Program for Measuring Productivity in the Marketing Area," by Jerome A. Mark. Before the American Marketing Association, Chicago, Illinois, April 1975.

"Productivity in Gasoline Stations, 1958–1973," by Brian L. Friedman and John L. Carey, *Monthly Labor Review*, February 1975, pp. 32 – 36.

"Data Needs for Productivity Measurement in Trucking and Railroads," by Jerome A. Mark. In *Proceedings of the Productivity Measurement Conference*, Interstate Commerce Commission, Washington, November 1974, pp. 78 – 84.

"Problems of Measuring Railroad Productivity," by Horst Brand, *Monthly Labor Review*, October 1974, pp. 26 – 32.

"Productivity in the Pharmaceutical Industry," by Horst Brand, *Monthly Labor Review*, March 1974, pp. 9 – 14.

"Productivity Trends in Intercity Trucking," by Richard B. Carnes, *Monthly Labor Review*, January 1974, pp. 53 – 57.

"Productivity in the Paints and Allied Products Industry," by Arthur S. Herman, *Monthly Labor Review*, November 1973, pp. 10 – 13.

"Productivity in Telephone Communications," by Horst Brand, *Monthly Labor Review*, November 1973, pp. 3 – 9.

"Productivity in the Steel Foundries Industry," by John L. Carey, *Monthly Labor Review*, May 1973, pp. 8 – 11.

"Productivity in the Ready-mixed Concrete Industry," by Robert S. Robinowitz and Martha Farnsworth Riche, *Monthly Labor Review*, May 1973, pp. 12 – 15.

"Productivity in the Metal Cans Industry," by John L. Carey, *Monthly Labor Review*, July 1972, pp. 28 – 31.

"Productivity in the Bakery Products Industry," by Clyde E. Huffstutler and Martha Farnsworth Riche, *Monthly Labor Review*, June 1972, pp. 25 – 28.

Productivity trends in government

"Pilot Study Measures Productivity of State, Local Electric Utilities," by Donald M. Fisk, *Monthly Labor Review*, December 1981, pp. 45 – 47.

"Measuring Productivity in Government," by Jerome A. Mark, *Public Productivity Review*, March 1981, pp. 22 – 44.

"Federal Sector Productivity Measurement," by Charles W. Ardolini, *Selected Papers from North American Conference on Labor Statistics*, May 1980, pp. 49 – 60.

"Measuring Productivity in Federal, State and Local Government," by Jerome A. Mark. In *Dimensions of Productivity Research*. The American Productivity Center, Houston, Texas, April 1980, pp. 993 – 1014.

"Measuring Federal Productivity," by Jerome A. Mark, *Civil Service Journal*, January–March 1979, pp. 20 – 23.

"Problems and Progress in Measuring Productivity in the Federal Sector," by Jerome A. Mark, *Civil Service Management Journal*, January1979, pp. 14 – 20.

"Measuring Productivity in the Federal Government," by Charles W. Ardolini and Jeffrey Hohenstein, *Monthly Labor Review*, November 1974, pp. 13 – 20.

"Developments in Measuring Productivity in the Federal Sector," by Jerome A. Mark and Charles W. Ardolini. In *Proceedings*, American Statistical Association, Business and Economics Statistics Section, 1974, pp. 236 – 245.

"Progress in Measuring Productivity in Government," by Jerome A. Mark, *Monthly Labor Review*, December 1972, pp. 3 – 6.

"Better Federal Coverage Needed to Improve National Measurement," by Jerome A. Mark, *Defense Management Journal*, October 1972, pp. 12 – 15.

Productivity and other economic trends

Productivity and the Economy: A Chartbook, with text, BLS Bulletin 2084, October 1981.

"Capital Formation and the Growth of Labor Productivity," by J.R. Norsworthy. Testimony prepared for the Congress of the United States, House of Representatives, Subcommittee on Oversight and Investigations of the Committee on Energy and Commerce, June 24, 1981.

Dynamic Models of Energy Substitution in U.S. Manufacturing, by J.R. Norsworthy and M.J. Harper, BLS Working Paper No. 102, May 1981, processed.

Energy Prices, Technical Change, and Productivity Growth, by J.R. Norsworthy and M.J. Harper, BLS Working Paper No. 118, April 1981.

"Capital, Energy, and Productivity Research," by J.R. Norsworthy. In *Dimensions of Productivity Research*. The American Productivity Center, Houston, Texas, April 1980, pp. 171 – 181.

"The Slowdown in Productivity Growth: Analysis of Some Contributing Factors," by J.R. Norsworthy, Michael J. Harper, and Kent Kunze. *Brookings Papers on Economic Activity*, No. 2: 1979, pp. 388 – 421.

"Assessing the Effects of Revised Workweek Schedules: Some U.S. Experiences," by Jerome A. Mark. Before the European Association of National Productivity Centers, Conference on the Management of Working Time, Belgrade, Yugoslavia, October 16, 1979.

"Productivity Growth in Manufacturing in the 1980's. Labor, Capital and Energy," by J.R. Norsworthy and M.J. Harper. In *Proceedings*, American Statistical Association, Business and Economic Statistics Section, August 1979.

The Role of Capital Formation in the Recent Slowdown in Productivity Growth, by J.R. Norsworthy and M.J. Harper, BLS Working Paper No. 87, January 1979.

CES Efficiency Parameters, by Leo Sveikauskas, BLS Working Paper No. 81, September 1978, processed.

Productivity and the Economy. A chartbook with text. BLS Bulletin 1926, 1977, 105 pp.

Current Developments in Productivity, 1973–74, by Jerome A. Mark, BLS Report 436, 1975.

The Revised Workweek: Results of a Pilot Study of 16 Firms, BLS Bulletin 1846, 1975. Also, "Measuring Productivity Under a 4-Day Week," by John J. Macut, *Monthly Labor Review*, April 1974, pp. 55 – 56.

"Productivity Trends and Their Implications," by Jerome A. Mark. Before the Symposium on Productivity, University of Southern California, Sacramento, California, November 1972.

Productivity Analysis in Manufacturing Plants, by Benjamin P. Klotz, BLS Staff Paper No. 3, 1970.

"Wage-Price Guidepost Statistics: Problems of Measurement," by Jerome A. Mark. In *Proceedings*, American Statistical Association, Business and Economics Section, 1968.

"Sector Changes in Unit Labor Costs," by Leon Greenberg and Jerome A. Mark. In *Industrial Composition of Income and Product*. New York, National Bureau of Economic Research, 1968.

Technology Studies

"Technological Change." Chapter 16 of *BLS Handbook of Methods*, BLS Bulletin 2134, 1982.

Impact of Technology on Labor in Five Industries (copper ore mining, printing and publishing, fabricated structural metal, intercity trucking, water transportation), BLS Bulletin 2137, 1982.

Technology and Labor in Four Industries (meat products, foundries, metalworking machinery, and electrical and electronic equipment), BLS Bulletin 2104, January 1982.

"Impact of Technological Change," by Richard W. Riche. Before OECD's Second Special Session on Information Technology, Productivity, Working Conditions, and Employment. Paris, France, October 19–21, 1981. Also, "Impact of New Electronic Technology," by Richard W. Riche, *Monthly Labor Review*, March 1982, pp. 37 – 39.

Technology, Productivity, and Labor in the Bituminous Coal Industry, 1950–79. A chartbook with text, BLS Bulletin 2072, February 1981.

"Measuring the Effects of Technological Change," by Jerome A. Mark. In *Silicon, Satellites, and Robots: The Impacts of Technological Change on the Workplace*. Edited by Dennis Chamot and Joan M. Baggett, Washington, Department for Professional Employees, AFL–CIO, June 5–7, 1979, pp. 18 – 20.

Technology and Labor in Five Industries (bakery products, air transportation, concrete, telephone communication, and insurance), BLS Bulletin 2033, 1979. Also "Technology in Telecommunications: Its Effect on Labor and Skills," by Michael D. Dymmel, *Monthly Labor Review*, January 1979, pp. 13 – 19.

Technological Change and Its Labor Impact in Five Energy Industries (coal mining, oil and gas extraction, petroleum refining, petroleum pipeline transportation, and electric and gas utilities), BLS Bulletin 2005, 1979. Also, "Technology and Labor in Electric Power and Gas Industry," by Robert V. Critchlow, *Monthly Labor Review*, November 1978, pp. 18 – 22.

Technological Change and Its Labor Impact in Five Industries (apparel, footwear, motor vehicles, railroads, retail trade), BLS Bulletin 1961, 1977. Also, "Technology and Labor in Automobile Production," by Robert V. Critchlow, *Monthly Labor Review*, October 1977, pp. 32 – 35.

Technological Change and Manpower Trends in Five Industries (pulp and paper, hydraulic cement, steel, aircraft and missiles, and wholesale trade), BLS Bulletin 1856, 1975.

**Computer Manpower Outlook*, BLS Bulletin 1826, 1974.

**Technological Change and Manpower Trends in Six Industries* (textiles, lumber and wood products, tires and tubes, aluminum, banking, and health services), BLS Bulletin 1817, 1974. Also, "Modernization and Manpower in Textile Mills," by Rose N. Zeisel, *Monthly Labor Review*, June 1973, pp. 18 – 25.

**Outlook for Technology and Manpower in Printing and Publishing*, BLS Bulletin 1774, 1973.

"New Technology in Laundry and Cleaning Services," by Mary L. Vickery, *Monthly Labor Review*, February 1972, pp. 54 – 59.

*_Outlook for Computer Process Control_, BLS Bulletin 1658, 1970. Also, "Manpower Implications of Computer Control in Manufacturing," by Arthur S. Herman, _Monthly Labor Review_, October 1970, pp. 3 – 8.

International Comparisons

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Metal cans
Hosiery

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Hourly compensation
Manufacturing productivity and labor costs
Unemployment

Construction labor requirements

Retail stores and shopping centers

Bibliographies

1979 – 82